



PATENT APPLICATION
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)	
JAMES Y. J. CHUNG ET AL)	GROUP NO.: 1714
SERIAL NUMBER: 10/667,955)	
FILED: SEPTEMBER 22, 2003)	EXAMINER: P. SZEKELY
TITLE: POLYCARBONATE COMPOSITION)	

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I, James Y. J. Chung, a citizen of the United States hereby declare that:

I studied Chemistry at the University of Tennessee and was awarded my Ph. D. in 1972; and

I am a Principal Scientist at Bayer MaterialScience, the assignee of the captioned patent application; and

I am a named inventor in the captioned patent application.

In support of the prosecution of the captioned patent application I present below the results of the evaluation of four thermoplastic molding compositions that were prepared and tested under my direction and supervision.

In preparing these compositions the following materials were used:

polycarbonate – Makrolon 3208 homopolycarbonate based on bisphenol A , having a melt flow rate of 5.1 g/10 min per ASTM D1238, a product of Bayer MaterialScience LLC

SAN – Styrene/acrylonitrile copolymer, Lustran DN50, a product of Lanxess.

Clay – Cloistite 25A , montmorillonite having average platelet thickness of 1 to 100 nm and average length and width each ranging from 50 to 700nm, modified with a quaternary ammonium salt , a product of Southern Clay Products,

Carboxylic acid- Citric acid

The compositions and their properties are summarized below:

Example.	1-4	2-8	3-A	3-B
Polycarbonate (wt.%)	97.5	97.25	--	--
SAN, (wt.%)	--	--	97.5	97.25
Clay, (wt.%)	2.5	2.5	2.5	2.5
Carboxylic acid, (wt.%)	0.0	0.25	0.0	0.25

Impact Performance

Impact Strength,
Izod

Notched (ft-lb/in)	1.5	1.7	0.2	0.2
Unnotched (ft-lb)	64.1	NB*	2.5	2.5
Multiaxial (ft-lb)	39.7	49	0.62	0.62
Fracture mode	B**	D***	B	B

*NB- denotes no break

** B- denotes brittle break

*** D- denotes ductile break

The data show that (i) the incorporation of carboxylic acid in a polycarbonate composition that contains montmorillonite modified with a quaternary ammonium salt results in improved impact performance and (ii) in contrast, a corresponding SAN composition does not show any improvement in impact performance.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed by me to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States code and that such willful false statements may jeopardize the validity of pending Application Serial Number 10,667,955 or any patent issuing thereon.

Signed at Pittsburgh this 21st day of May,
2007.

James Y.J. Chung
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